This listing of claims will replace all prior versions, and listings, of claims in the application

Listing of Claims:

1. **(Currently Amended)** A method for forming a pattern in a film carried on a substrate, said method comprising:

obtaining a mold of a material, which mold is hard relative to the film,

the film comprising a polymeric composition ~~including~~ blended with a release agent to include an internal mold release agent and capable of being deformed by said mold at a temperature of less than 200°C.;

the mold having first and second protruding features spaced apart from each other and a recess formed thereby, the first and second features and the recess having a shape forming a mold pattern and providing at least one mold pattern lateral dimension which is less than 200 nm;

urging the mold into the film under a molding pressure;

the thickness of the film under the protruding features of the mold being reduced to form areas of reduced thickness, thereby forming the mold pattern in the film;

photocuring, thermally curing, or both thermally curing and photocuring the polymeric composition;

removing the mold from the film; and

removing from the film the areas of reduced thickness, thereby forming exposed portions of the surface of the substrate which underlie the areas of reduced thickness such that the exposed portions of the surface of the substrate

substantially replicate the mold pattern and have at least one lateral dimension which is less than 200 nm;

wherein the polymeric composition comprises a thermosettable polymeric composition and a photocurable polymeric composition.

2. (Previously Presented) The method of claim 1, wherein the polymeric composition comprises a block copolymer, a grafted polymer, a telechelic polymer, a star polymer, a dendrimer, or any combination thereof.

3. (Previously Presented) The method of claim 1, wherein the polymeric composition comprises: poly(methyl methacrylate), poly(bisphenol-A carbonate), poly(methylhexadecylsiloxane), poly(methylacrylate), poly(n-butyl acrylate), poly(octadecyl methacrylate), poly(isobutyl methacrylate), poly(butyl methacrylate), poly(vinylacetate), poly(vinyl stearate), poly(ethylene oxide), polycaprolactone, poly(α-methylstyrene), poly(vinyl stearate)/poly(methyl methacrylate), poly(methylhexadecylsiloxane)/poly(methyl methacrylate), poly(octadecyl methacrylate)/poly(methyl methacrylate), poly(butyl methacrylate-co-isobutylmethacrylate), poly(butyl methacrylate-co-methyl methacrylate), poly(dimethylsiloxane-co-α-methylstyrene), poly(ethylene-co-vinylacetate)-graft(t-maleic anhydride), poly(vinyl chloride-co-vinylacetate), poly(vinyl chloride-co-isobutylvinylether), poly(chlorotrifluoroethylene-co-vinylidene fluoride), or any combination thereof.

4. (Original) The method of claim 1, wherein the polymeric composition comprises an oligomer, said oligomer comprising an epoxy resin, an

acrylic (methylacrylic) oligomer, a reactive polysiloxane oligomer, or any combination thereof.

5. (Original) The method of claim 1, wherein the polymeric composition further comprises a monomer, said monomer comprising a C_8-C_{20} alkyl methacrylate, a fluorinated alkyl (meth)acrylate monomer, or any combination thereof.

6. (Previously Presented) The method of claim 1, wherein the polymeric composition further comprises a crosslinker, said crosslinker comprising divinyl benzene, trimethylolpropane triacrylate, or any combination thereof.

7. (Canceled).

8. (Previously Presented) The method of claim 1, wherein said polymeric composition is capable of being deformed at a temperature of less than about 100°C.

9. (Canceled).

10. (Previously Presented) The method of claim 1, wherein said photocurable polymeric composition is capable of curing in less than about 2 seconds on exposure to radiation.

11. (Previously Presented) The method of claim 1, wherein said photocurable polymeric composition has a viscosity of greater than about 2 poise at 25°C.

12. (Original) The method of claim 11, wherein said photocurable polymeric composition has a viscosity in the range of about 10 poise to about 30 poise.

13. (Previously Presented) The method of claim 1, wherein said photocurable polymeric composition comprises an oligomer, said oligomer comprising silicon atoms.

14. (Previously Presented) The method of claim 1, wherein said photocurable polymeric composition is capable of crosslinking in less than about 2 seconds on exposure to radiation.

15. (Previously Presented) The method of claim 1, wherein said photocurable polymeric composition comprises up to about 90 weight percent monomer.

16. (Previously Presented) The method of claim 1, wherein said film further comprises a plasticizer, a monomer, a crosslinker, a lubricant, an additive, or any combination thereof.

17. (Previously Presented) The method of claim 1, wherein said film comprises said polymeric composition, up to about 80 weight percent of a plasticizer, and up to about 30 weight percent of a mold release agent.

18. (Canceled).

19. (Previously Presented) The method of claim 1, wherein sub-50 nanometer structures are formed.

20 – 29. (Canceled).

30. (Currently Amended) A method for forming a plurality of structures having at least one dimension less than 200 nm, said method comprising:

obtaining a mold of a material, which mold is hard relative to a nanoimprint resist,

the nanoimprint resist comprising a polymeric composition ~~including~~ blended with a release agent to include an internal mold release agent and capable of being deformed by said mold at a temperature of less than 200°C., wherein the polymeric composition comprises a thermosettable polymeric composition and a photocurable polymeric composition;

the mold having first and second protruding features spaced apart from each other and a recess formed thereby, the first and second features and the recess having a shape forming a mold pattern and providing at least one mold pattern lateral dimension which is less than 200 nm;

urging the mold into the nanoimprint resist under a molding pressure;

the thickness of the nanoimprint resist under the protruding features of the mold being reduced to form areas of reduced thickness, thereby forming the mold pattern in the nanoimprint resist, the mold pattern comprising a plurality of structures having at least one dimension less than 200 nm;

photocuring, thermally curing, or both thermally curing and photocuring the polymeric composition;

removing the mold from the nanoimprint resist, the polymeric composition retaining said plurality of structures; and

removing from the nanoimprint resist the areas of reduced thickness, thereby forming exposed portions of the surface of the substrate which underlie the areas of reduced thickness such that the exposed portions of the surface of the substrate substantially replicate the mold pattern and have at least one lateral dimension which is less than 200 nm.

31 – 34. (Cancelled).

35. (Previously Presented) The method of claim 30 wherein the curing comprises ultraviolet exposure.

36. (Previously Presented) The method of claim 30 wherein the curing comprises thermal treatment.

37. (Previously Presented) The method of claim 30 wherein the curing comprises both ultraviolet exposure and thermal treatment.

38. (Currently Amended) A method for forming a pattern in a film carried on a substrate, said method comprising:

obtaining a mold of a material, which mold is hard relative to the film,

the film comprising a polymeric composition ~~including~~ blended with a release agent to include an internal mold release agent and a crosslinker and capable of being deformed by said mold at a temperature of less than 200°C., the polymeric composition comprising a thermosettable polymeric composition and a photocurable composition;

the mold having first and second protruding features spaced apart from each other and a recess formed thereby, the first and second features and the

recess having a shape forming a mold pattern and providing at least one mold pattern lateral dimension which is less than 200 nm;

urging the mold into the film under a molding pressure;

the thickness of the film under the protruding features of the mold being reduced to form areas of reduced thickness, thereby forming the mold pattern in the film;

crosslinking the polymeric composition;

removing the mold from the film; and

removing from the film the areas of reduced thickness, thereby forming exposed portions of the surface of the substrate which underlie the areas of reduced thickness such that the exposed portions of the surface of the substrate substantially replicate the mold pattern and have at least one lateral dimension which is less than 200 nm.

39. (Previously Presented) The method of claim 38, wherein the polymeric composition comprises: poly(methyl methacrylate), poly(bisphenol-A carbonate), poly(methylhexadecylsiloxane), poly(methylacrylate), poly(n-butyl acrylate), poly(octadecyl methacrylate), poly(isobutyl methacrylate), poly(butyl methacrylate), poly(vinylacetate), poly(vinyl stearate), poly(ethylene oxide), polycaprolactone, poly(α-methylstyrene), poly(vinyl stearate)/poly(methyl methacrylate), poly(methylhexadecylsiloxane)/poly(methyl methacrylate), poly(octadecyl methacrylate)/poly(methyl methacrylate), poly(butyl methacrylate-co-isobutylmethacrylate), poly(butyl methacrylate-co-methyl methacrylate), poly(dimethylsiloxane-co-α-methylstyrene), poly(ethylene-co-vinylacetate)-graft(t-

maleic anhydride), poly(vinyl chloride-co-vinylacetate), poly(vinyl chloride-co-isobutylvinylether), poly(chlorotrifluoroethylene-co-vinylidene fluoride), or any combination thereof.

40. (Previously Presented) The method of claim 38, wherein the polymeric composition comprises an oligomer, said oligomer comprising an epoxy resin, an acrylic (methylacrylic) oligomer, a reactive polysiloxane oligomer, or any combination thereof.

41. (Previously Presented) The method of claim 38, wherein the polymeric composition further comprises a monomer, said monomer comprising a C_8-C_{20} alkyl methacrylate, a fluorinated alkyl (meth)acrylate monomer, or any combination thereof.

42. (Previously Presented) The method of claim 38, wherein crosslinker is divinyl benzene, trimethylolpropane triacrylate, or any combination thereof.

43. (Previously Presented) The method of claim 1, in which the polymeric composition comprises a single or multiple layers of composites.

44. (Previously Presented) The method of claim 1, in which the mold imprints at least one layer of multiple layers of a composite.

45. (Previously Presented) The method of claim 1 comprising both thermally curing and photocuring the polymeric composition after imprinting by the mold.

46. (Previously Presented) The method of claim 30, in which the polymeric composition comprises a single or multiple layers of composites.

47. (Previously Presented) The method of claim 30, in which the mold imprints at least one layer of multiple layers of a composite.

48. (Canceled).

49. (Previously Presented) A method for forming a pattern in a film carried on a substrate, said method comprising:

obtaining a mold of a material, which mold is hard relative to the film,

the film comprising a thermoplastic polymer, a photocurable polymer and an internal mold release agent, and capable of being deformed by said mold at a temperature of less than 200°C.;

the mold having first and second protruding features spaced apart from each other and a recess formed thereby, the first and second features and the recess having a shape forming a mold pattern and providing at least one mold pattern lateral dimension which is less than 200 nm;

urging the mold into the film under a molding pressure;

the thickness of the film under the protruding features of the mold being reduced to form areas of reduced thickness, thereby forming the mold pattern in the film;

removing the mold from the film; and

removing from the film the areas of reduced thickness, thereby forming exposed portions of the surface of the substrate which underlie the areas of reduced thickness such that the exposed portions of the surface of the substrate substantially replicate the mold pattern and have at least one lateral dimension which is less than 200 nm.

50. – 54. (Cancelled

55. (Previously Presented) The method of claim 49, wherein the thermoplastic polymer comprises poly(vinylacetate).

56. (Previously Presented) The method of claim 49, wherein the thermoplastic polymer comprises poly(butyl methacrylate).

57. (Previously Presented) The method of claim 49, wherein the thermoplastic polymer comprises poly(methylhexadecylsiloxane).

58. (Previously Presented) The method of claim 49, wherein the thermoplastic polymer comprises polystyrene.

59. (Currently Amended) The method of claim 49, wherein the thermoplastic polymer comprises poly(~~octyl~~ octadecyl methacrylate).

60. (Previously Presented) The method of claim 49, wherein the thermoplastic polymer comprises poly(vinylchloride-co-vinylacetate).

61. (New) The method of claim 1 wherein after imprinting the film, the film is further treated by post-imprint thermal baking for improving mechanical strength.

62. (New) The method of claim 1 wherein after imprinting the film, the film is further treated by post-imprint UV exposure for improving mechanical strength.

63. (New) The method of claim 1 wherein after imprinting the film, the film is further treated by post-imprint thermal baking and post-imprint UV exposure for improving mechanical strength.

64. **(New)** The method of claim 38 wherein after imprinting the film, the film is further treated by post-imprint thermal baking for improving mechanical strength.

65. **(New)** The method of claim 38 wherein after imprinting the film, the film is further treated by post-imprint UV exposure for improving mechanical strength.

66. **(New)** The method of claim 38 wherein after imprinting the film, the film is further treated by post-imprint thermal baking and post-imprint UV exposure for improving mechanical strength.

67. **(New)** The method of claim 49 wherein after imprinting the film, the film is further treated by post-imprint thermal baking for improving mechanical strength.

68. **(New)** The method of claim 49 wherein after imprinting the film, the film is further treated by post-imprint UV exposure for improving mechanical strength.

69. **(New)** The method of claim 49 wherein after imprinting the film, the film is further treated by post-imprint thermal baking and post-imprint UV exposure for improving mechanical strength.